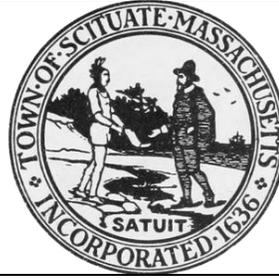


**STANDARD OPERATING PROCEDURE
TOWN OF SCITUATE
DEPARTMENT OF PUBLIC WORKS**



SOP NUMBER:

ISSUE DATE:

PROGRAM:

Snow Removal and De-Icing

APPROVED BY:

Public Works Director [or other]

MA SMALL MS4 PERMIT REQUIREMENT SUMMARY:

Part 2.3.7.a.iii.5.

The permittee shall establish and implement procedures for winter road maintenance including the use and storage of salt and sand; minimize the use of sodium chloride and other salts, and evaluate opportunities for use of alternative materials; and ensure that snow disposal activities do not result in disposal of snow into waters of the United States. For purposes of this MS4 Permit, salt shall mean any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

Personnel

The following personnel are involved with snow and ice removal. Employees performing the procedures in this SOP shall attend yearly stormwater pollution prevention training.

TABLE 1

Name	Responsibility

Equipment

Attleboro owns and maintains ice control and snow removal equipment listed in Table 2. Equipment maintenance shall be conducted consistent with the Vehicles and Equipment maintenance SOP found here: **[enter location of vehicle washing SOP]**. The wash bay/ area is located at: **[enter location of wash bay]**

Plowing

When conditions warrant, plows are installed on the **[enter number]** larger trucks to move snow from the traveled roadway. Average time to install a plow is approximately **[30]** minutes. **[enter number]** smaller trucks are available for plowing of residential streets and clearing public lots.

Sand Spreaders

When conditions warrant, sand spreaders are installed on the **[enter number]** larger trucks to spread sand on the traveled roadway. Each sand spreader is calibrated prior to the deicing season and every **[enter number of weeks or days etc.]** thereafter. Sand spreaders are calibrated to dispense **[enter number]** cubic yards of sand per lane mile.

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Salt Spreaders and Pre-Wetting Devices

When conditions warrant, salt spreaders are installed on the [enter number] larger trucks to spread salt on the traveled roadway. Each salt spreader is calibrated prior to the deicing season and every [enter number of weeks or days etc.] thereafter. Salt application shall be calibrated to dispense rates of [enter number e.g. 200] pounds per lane mile [also consider calibration based on temperature]. [enter number] of trucks are equipped with pre-wetting brine tanks which are calibrated prior to the deicing season and every [enter number of weeks or days etc.] thereafter. Pre-wetting application shall be calibrated to dispense rates [enter number e.g. 8] gallons of pre-wet liquid to 1 ton of salt.

Anti-Icing Dispensers

The municipality has [enter number] pieces of equipment for this task. Each is a [enter number]-gallon truck-mounted dispenser for anti-icing chemical application. The tanks are mounted on [enter truck] and distributes anti-icing product onto town streets and bridges utilizing spray nozzles in accordance with this SOP. Anti-icing dispensers are calibrated prior to the deicing season and every [enter time] thereafter. Anti-icing dispensers shall be calibrated to apply [enter gallons, e.g. 40] gallons per lane mile. Pre-wetting application shall be calibrated to dispense rates are [enter number e.g. 8] gallons of pre-wet liquid to 1 ton of salt. [also consider calibration based on temperature]

TABLE 2

Equipment Number	Make	Description	Additional Equipment	Primary Use
[00001]	[XXXX]	[12-yard dump truck]	[4-yard salt spreader. 11' Side-cast plow]	[General Salting and Plowing]

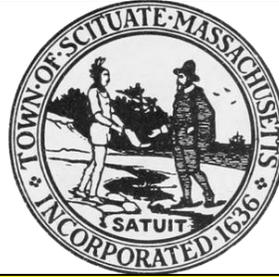
Other Equipment available from other divisions:

[Fill in other equipment here]

Materials

The major materials used in snow and ice control are coarse sand, coarse salt, anti-icing agent, [fill in others as necessary]. These materials are stockpiled in advance of an event and are immediately available when needed and

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stocks are replenished between events. <Enter information about WRPD requirements>

Sand

Sand is used as an abrasive for traction on slick roadways. Approximately [enter number] cubic yards are anticipated to be used per year and are ordered from [enter contract] prior to each deicing season. Sand is stored in the covered facility located at: [enter location(s) of storage]. Loading areas and yards are swept [enter frequency] to prevent sand build-up and run-off.

Salt

Salt is used to expedite the melting of snow and ice from the street surface and also to keep the ice from forming a bond to the street surface. Approximately [enter number] tons of [enter salt type] are anticipated to be used per year and are ordered from [enter contract] prior to each deicing season. Salt is stored in the covered facility located at: [enter location(s) of storage]. Loading areas and yards are swept [enter frequency] to prevent salt build-up and run-off.

Anti-icing and Pre-Wetting Chemical

Approximately [enter number] gallons of [enter name of chemical] is estimated to be needed for anti-icing application and [enter number] gallons of [enter name of chemical] is estimated to be needed for pre-wetting. These chemicals are stored at [enter location] in [enter number] gallon storage tanks equipped with appropriate spill control.

Salt Alternatives

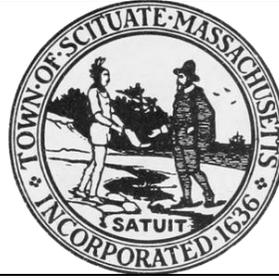
Approximately [enter number and amount] of [enter name of chemical] is estimated to be needed for de-icing purposes in environmentally sensitive areas. The chemicals are and are ordered from [enter contract] prior to each deicing season. These chemicals are stored at [enter location].

Procedures

Anti-Icing

1. Whenever possible, the anti-icing product is applied to the roadway prior to the beginning of a storm to prevent snow from bonding to the roadway surface, and also used when heavy frost or black ice is expected to be an issue for commuters. [enter person or position name] will instruct staff when anti icing is appropriate. Anti-icing will not be done prior to freezing rain or when pavement temperatures are below [enter temperature, e.g. 10] degrees F.
2. Prior to anti-icing application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. Anti-icing chemical will only be applied to priority routes. The priority routes list is found here: [enter location of priority routes or list them here].
4. Anti-Icing vehicle optimal speed is [insert speed] MPH.
5. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs

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will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to **[enter person or position name]**. **[enter person or position name]** will determine importance and will assign the repairs according to schedule. All deicing chemical will be washed from equipment at the wash bay or designated wash area.

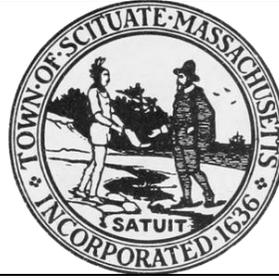
Salt Application

1. Whenever conditions warrant, salt is applied to the roadway prior to accumulation of snow to prevent compacted snow from bonding to the roadway surface. **[enter person or position name]** will instruct staff when salt application is appropriate. Salting will not be done when pavement temperatures are above **[enter temp, e.g. 32]** degrees F or below **[enter temperature, e.g. 15]** degrees F.
2. Prior to salt application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. The standard salt application speed is: **[enter speed]** mph.
4. Follow the prioritized route or schedule. This schedule is located at: **[enter location of plowing route and schedule]**.
5. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to **[enter person or position name]**. **[enter person or position name]** will determine importance and will assign the repairs according to schedule. All deicing chemical will be washed from equipment at the wash bay or designated wash area.

Snow Plowing

1. As the storm develops and **[enter snow amount e.g. 2 to 4]** inches of snow has accumulated, all of the drivers and available equipment will begin to plow their assigned routes.
2. Prior to plowing operations, equipment will be checked to ensure proper working order. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. Avoid plowing, pushing, blowing or storing excess snow, deicer, or other debris in or near creeks, watercourses or storm drainage systems.
4. Reduce plowing speed in sensitive areas (near creeks, wetlands or other water courses) to prevent snow and deicing materials from entering waterways.
5. The standard plowing speed is: **[enter speed]** mph.
6. Follow the prioritized route or schedule. This schedule is located at: **[enter location of plowing route and schedule]**.
7. Before parking any truck or equipment after use, all fluid levels will be checked and filled. Blades or bolts, which need replacing, will be taken care of unless told to do otherwise. Chains that need repairs will be repaired. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to **[enter person or position name]**. **[enter person or position name]** will determine importance and will assign the repairs according to schedule.

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Sand Application

1. Whenever conditions warrant, sand is applied to the roadway to increase traction. **[enter person or position name]** will instruct staff when sand application is appropriate. Sanding will not be done when pavement temperatures are above **[enter temp, e.g. 15]** degrees F.
2. Prior to sand application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. The standard sanding speed is: **[enter speed]** mph.
4. Follow the prioritized route or schedule. This schedule is located at: **[enter location of plowing route and schedule]**.
5. Before parking any truck or equipment after use, all fluid levels will be checked and filled. Blades or bolts, which need replacing, will be taken care of unless told to do otherwise. Chains that need repairs will be repaired. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to **[enter person or position name]**. **[enter person or position name]** will determine importance and will assign the repairs according to schedule.

Salt Alternative Application

1. Salt alternatives are used in environmentally sensitive areas and applied to the roadway prior to accumulation of snow to prevent compacted snow from bonding to the roadway surface. **[enter person or position name]** will instruct staff when salt alternative application is appropriate.
2. Prior to salt alternative application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. Salt alternatives will only be applied to priority routes. The priority routes list is found here: **[enter location of priority routes or list them here]**.
4. Salt alternative delivery optimal speed is **[insert speed]** MPH.
5. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to **[enter person or position name]**. **[enter person or position name]** will determine importance and will assign the repairs according to schedule. All deicing chemical will be washed from equipment at the wash bay or designated wash area.

Record Keeping and Documentation

1. Maintain a master schedule of prioritized snow and sanding routes and the miles or roads plowed or sanded. **[document location]**
2. Keep copies of manufacturer's recommendations for equipment calibration, plowing speed and salt/sand application rates. **[document location]**
3. Keep records of the amounts of salt, sand, liquid deicer, and salt alternatives applied per season. **[document location]**
4. Keep a list of all employees trained in the facility's Stormwater Pollution Prevention binder or computer

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file.